MILLER BREWING COMPANY

Milwaukee Brewery

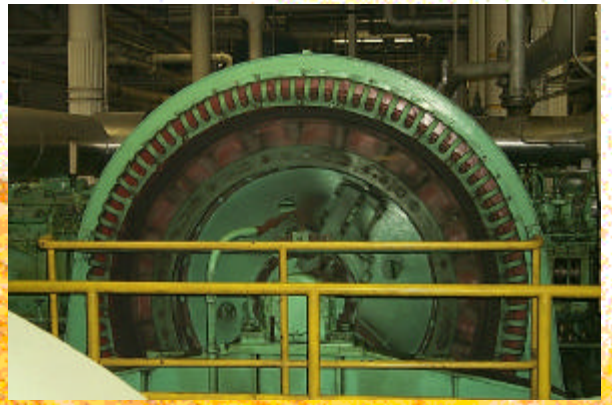
The Milwaukee brewery is the original Miller Brewery. Many of our buildings date back to the earliest days of Miller Brewing.

As Miller has grown, the plant has expanded in all directions, equipment and energy needs have changed. Although equipment has been upgraded to improve efficiency, our energy expenditures continued to grow.

Two-Horsepower Engine

To remain competitive we determined an energy management program was needed...

1950 Ammonia Compressor



From the mechanical and engineering side… the spectrum of equipment of varying age presented opportunities for improvements in energy efficiency.

Dedicated Workers: Ken and Jim

On the human side... most employees are celebrating 20 - 25 years of service with the Milwaukee Brewery. Habits, attitudes, and traditions are well entrenched.

Our Paradox: Merging the old with new. We elected to use a dual approach...

1948 Wickes Boiler

We embarked on a focused effort to improve energy efficiency on the mechanical and engineering side as well as the human side!

Keeping reliable, vintage equipment that is well-suited to our needs, while upgrading to new technologies where appropriate. Keeping traditions, while integrating change into the old habits. Our Climate Wise Action Plan reflects this approach.

1969 C.E. Boiler

Action Plant Elements - Mechanical/Engineering upgrades to existing systems and equipment...

- Impact of seasonal changes presented opportunities for improved energy efficiency by reducing system pressures on the ammonia system. (10 million KWH)
- Installation of air compressor controls to reduce excess blow-off and increase efficiency. (2 million KWH)
- Increased heat recovery from flue gas by installing an economizer on largest of four boilers. (83K therms)
- Relamped brewery with energy efficient lighting and installed “Dawn to Dusk” controls on outdoor lighting. (4.5 million KWH)
- Conversion from pneumatic to electronic boiler controls with automatic oxygen trim systems to improve combustion efficiency. (170K therms)
- Installation of more efficient concentrators and air units in Niagara Cooling/Dehumidification systems. (1.08 million KWH)
- Implement steam trap management program for 1500 traps. (280K therms)

Action Plan Elements - Key humanistic components of a successful energy management program...

- Development of energy teams in each major department. Teams identify opportunities, network with other teams, and conduct energy audits on a weekly basis.
- Bi-weekly meetings with senior staff to review energy performance of the entire facility.
- Data collection from over 100 meters on a daily basis.
- Implement shutdown procedures (short and long term) for production equipment. (7.4 million KWH)
- Reduce output temperature of production hot water boilers from 250 to 240 degrees. (90K therms)
- Improved operational logsheet system for compressors, boilers and steam turbo generator to reduce excessive backup systems and maximize equipment efficiency. (2.5 million KWH)
- Joined WEPCO's Co-Op program to reduce electrical demand upon request and gain modem access to electrical data.

The energy reduction success achieved by the Milwaukee Brewery, with the assistance of the Climate Wise Program, supports our Corporate-wide environmental goals…

Milwaukee Brewery

1999 Environmental Goals

- Reduce Energy Use by 5% per barrel from 1998 levels.
- Reduce Water Use by 5% per barrel from 1998 levels.
- Reduce hazardous waste by 5% from 1998 levels.
- Achieve a 99% percent rate of recycling.
- Develop metrics for measurement of solid and hazardous waste, water and air emissions, and energy use.
- Keep employees informed & knowledgeable about the impact of their actions on the environment.
- 100 percent compliance with all applicable permits and regulations.

Energy = Environment